CLAIMS

1. A fluid ejection device, comprising:

a chamber;

a first fluid channel and a second fluid channel each communicated with the chamber;

a first peninsula extended along the first fluid channel and a second peninsula extended along the second fluid channel; and

a first sidewall extended between the first peninsula and the chamber, and a second sidewall extended between the second peninsula and the chamber,

wherein the first sidewall is oriented at a first angle to the chamber and the second sidewall is oriented at a second angle to the chamber, wherein the second angle is different from the first angle.

2. The fluid ejection device of claim 1, further comprising:

a resistor formed in the chamber.

3. The fluid ejection device of claim 1, wherein a width of the first fluid channel along the first sidewall and along a portion of the first peninsula is substantially constant, and a width of the second fluid channel along the second sidewall and along a portion of the second peninsula is substantially constant.

4. The fluid ejection device of claim 1, further comprising:

an island separating the first fluid channel and the second fluid channel.

5. The fluid ejection device of claim 4, wherein the island is asymmetrical.

6. The fluid ejection device of claim 4, wherein the island has a first side oriented substantially parallel with the first peninsula and a second side oriented substantially parallel with the second peninsula.

7. The fluid ejection device of claim 4, wherein the island has a first chamfered corner oriented substantially parallel with the first sidewall and a second chamfered corner oriented substantially parallel with the second sidewall.

8. The fluid ejection device of claim 1, wherein the first sidewall and the second sidewall are substantially linear.

9. The fluid ejection device of claim 1, wherein a combined minimum width of the first fluid channel and the second fluid channel is in a range of approximately 34 microns to approximately 42 microns.

10. The fluid ejection device of claim 1, wherein a minimum length of each of the first fluid channel and the second fluid channel is in a range of approximately 29 microns to approximately 31 microns.

11. The fluid ejection device of claim 1, wherein a length of each of the first peninsula and the second peninsula is in a range of approximately 30 microns to approximately 52 microns.

12. The fluid ejection device of claim 1, wherein the first angle of the first sidewall is in a range of approximately 43 degrees to approximately 46 degrees, and wherein the second angle of the second sidewall is in a range of approximately 30 degrees to approximately 34 degrees.

13. A fluid ejection device, comprising:

a chamber;

a first fluid channel and a second fluid channel each communicated with the chamber; and

an island separating the first fluid channel and the second fluid channel,

wherein the island is substantially rectangular and has a first chamfered corner along the first fluid channel and a second chamfered corner along the second fluid channel, wherein the first chamfered corner is oriented at a first angle and the second chamfered corner is oriented at a second angle different from the first angle.

14. The fluid ejection device of claim 13, further comprising:

a resistor in the chamber.

15. The fluid ejection device of claim 13, further comprising:

a first peninsula extended along the first fluid channel and a second peninsula extended along the second fluid channel; and

a first sidewall extended between the first peninsula and the chamber and a second sidewall extended between the second peninsula and the chamber.

16. The fluid ejection device of claim 15, wherein the first sidewall is oriented at a first angle to the chamber and the second sidewall is oriented at a second angle to the chamber, wherein the second angle is less than the first angle.

17. The fluid ejection device of claim 16, wherein the first angle of the first sidewall is in a range of approximately 43 degrees to approximately 46 degrees, and the second angle of the second sidewall is in a range of approximately 30 degrees to approximately 34 degrees.

18. The fluid ejection device of claim 15, wherein the first sidewall is oriented substantially parallel with the first chamfered corner of the island and the second sidewall is oriented substantially parallel with the second chamfered corner of the island.

19. The fluid ejection device of claim 15, wherein the island has a first side and a second side opposite the first side, wherein the first peninsula is oriented substantially parallel with the first side of the island and the second peninsula is oriented substantially parallel with the second side of the island.

20. The fluid ejection device of claim 19, wherein a width of the first fluid channel along the first chamfered corner and the first side of the island is substantially constant, and a width of the second fluid channel along the second chamfered corner and the second side of the island is substantially constant.

21. The fluid ejection device of claim 15, wherein a length of each of the first peninsula and the second peninsula is in a range of approximately 30 microns to approximately 52 microns.

22. The fluid ejection device of claim 13, wherein a combined minimum width of the first fluid channel and the second fluid channel is in a range of approximately 34 microns to approximately 42 microns.

23. The fluid ejection device of claim 13, wherein a minimum length of each of the first fluid channel and the second fluid channel is in a range of approximately 29 microns to approximately 31 microns.

24. A fluid ejection device, comprising:

a substrate;

a barrier layer formed on the substrate; and

an orifice layer extended over the barrier layer,

wherein the barrier layer includes a chamber and a pair of fluid channels each communicated with the chamber,

wherein the barrier layer has a thickness in a range of approximately 12 microns to approximately 16 microns, wherein the fluid channels have a combined minimum width in a range of approximately 34 microns to

approximately 42 microns and each have a minimum length in a range of approximately 29 microns to approximately 31 microns, and wherein a portion of one of the fluid channels is oriented at an angle to the chamber in a range of approximately 43 degrees to approximately 46 degrees and a portion of another of the fluid channels is oriented at an angle to the chamber in a range of approximately 30 degrees to approximately 34 degrees.

25. The fluid ejection device of claim 24, wherein the orifice layer has an orifice communicated with the chamber of the barrier layer formed therein, wherein a center of the orifice is offset relative to a center of the chamber.

26. The fluid ejection device of claim 25, wherein the substrate has a fluid opening formed therethrough, and wherein the orifice is offset one of toward and away from the fluid opening of the substrate.

27. The fluid ejection device of claim 25, wherein the orifice has a diameter in a range of approximately 18 microns to approximately 22 microns.

28. The fluid ejection device of claim 24, further comprising:

a supply of fluid communicated with the first fluid channel and the second fluid channel.

29. The fluid ejection device of claim 28, wherein the fluid has a surface tension in a range of approximately 42 dynes/centimeter to approximately 48 dynes/centimeter, and a viscosity in a range of approximately 2.2 centipoises to approximately 3.2 centipoises.

30. The fluid ejection device of claim 28, wherein the device is adapted to eject drops of the fluid at a frequency up to at least approximately 13 kilohertz with each of the drops having a weight in a range of approximately 13 nanograms to approximately 16 nanograms.

31. The fluid ejection device of claim 28, wherein the device is adapted to eject drops of the fluid at a frequency up to at least approximately 18 kilohertz with each of the drops having a weight in a range of approximately 10 nanograms to approximately 16 nanograms.

32. A fluid ejection system, comprising:

a supply of fluid;

a chamber communicated with the supply of fluid; and

means for ejecting drops of the fluid from the chamber at a frequency up to at least approximately 18 kilohertz with each of the drops having a weight in a range of approximately 10 nanograms to approximately 16 nanograms.

33. The fluid ejection system of claim 32, wherein means for ejecting drops of the fluid includes a resistor formed in the chamber.

34. The fluid ejection system of claim 32, wherein means for ejecting drops of the fluid includes means for ejecting drops of the fluid from the chamber at a frequency up to at least approximately 13 kilohertz with each of the drops having a weight in a range of approximately 13 nanograms to approximately 16 nanograms.

35. The fluid ejection system of claim 32, wherein the fluid has a surface tension in a range of approximately 42 dynes/centimeter to approximately 48 dynes/centimeter, and a viscosity in a range of approximately 2.2 centipoises to approximately 3.2 centipoises.

36. The fluid ejection system of claim 32, wherein means for ejecting drops of the fluid includes a first fluid channel and a second fluid channel each communicated with the chamber and the supply of fluid, and an island separating the first fluid channel and the second fluid channel, wherein a combined minimum width of the first fluid channel and the second fluid channel is in a range of approximately 34 microns to approximately 42 microns and a

minimum length of each of the first fluid channel and the second fluid channel is in a range of approximately 29 microns to approximately 31 microns.

37. The fluid ejection system of claim 36, wherein a portion of the first fluid channel is oriented at an angle to the chamber in a range of approximately 43 degrees to approximately 46 degrees and a portion of the second fluid channel is oriented at an angle to the chamber in a range of approximately 30 degrees to approximately 34 degrees.

38. The fluid ejection system of claim 32, further comprising:

a substrate having a fluid opening formed therethrough;

a barrier layer formed over the substrate; and

an orifice layer extended over the barrier layer,

wherein the supply of fluid is communicated with the fluid opening of the substrate,

wherein the chamber is formed in the barrier layer, and

wherein the orifice layer has an orifice communicated with the chamber of the barrier layer formed therein.

39. The fluid ejection system of claim 38, wherein the barrier layer has a thickness in a range of approximately 12 microns to approximately 16 microns.

40. The fluid ejection system of claim 38, wherein the barrier layer has a thickness of approximately 14 microns.

41. A fluid ejection system, comprising:

a supply of fluid;

a chamber communicated with the supply of fluid; and

means for ejecting drops of the fluid from the chamber at a frequency up to at least approximately 18 kilohertz with the drops having a weight in a range of approximately 70 percent to approximately 100 percent of a steady state drop weight.

42. A fluid ejection system, comprising:

a supply of fluid;

a chamber communicated with the supply of fluid; and

means for ejecting drops of the fluid from the chamber over a frequency range of up to at least approximately 18 kilohertz and maintaining a substantially constant impedance to flow of fluid to the chamber over the frequency range.